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ALCOHOL

AND THE

HUMAN BRAIN.

BY

REV. JOSEPH COOK.

NEW YORK:
National Temperance Society and Publication House,
58 READE STREET.
1879.

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Cassio's language in Othello is to-day adopted by cool physiological science: "O God, that men should put an enemy in their mouths to steal away their brains! That we should, with joy, revel, pleasure and applause, transform ourselves into beasts! To be now a sensible man, by and by a fool, and presently a beast! O strange! Every inordinate cup is unbless'd, and the ingredient is the devil."—Shakespeare, *Othello*, Act II., Scene iii.

Central in all the discussion of the influence of intoxicating drink upon the human brain is the fact that albuminous substances are hardened by alcohol. I take the white of an egg, and, as you see, turn it out in a fluid condition into a goblet. The liquid is a viscous, glue-like substance, largely composed of albumen. It is made up of pretty nearly the same chemical ingredients that constitute a large part of the brain and the nervous system, and of many other tissues of the body. Forty per cent of the matter in the corpuscles of the blood is albumen. I am about to drench this white of an egg with alcohol. I have never performed this experi-

ment before, and it may not succeed, but so certain am I that it will, that I purpose never to put the bottle to my lips and introduce into my system a fiend to steal away my brain. Edmund Burke, when he heard William Pitt say in Parliament that England would stand till the day of judgment, rose and replied; "What I fear is the day of *no* judgment." When Booth was about to assassinate Lincoln, his courage failed him, and he rushed away from the theater for an instant into the nearest restaurant and called for brandy. Harden the brain by drenching it in alcohol and you harden the moral nature.

If you will fasten your attention on the single fact, that alcohol hardens this albuminous substance with which I place it in contact, you will have in that single strategic circumstance an explanation of most of its ravages upon the blood and nerves and brain. I beg you to notice that the white of an egg in the goblet does not become hardened by exposure to the air. I have allowed it to remain exposed for a time, in order that you may see that there is no legerdemain in this experiment. [Laughter.] I now pour alcohol upon this albuminous fluid, and if the result here is what it has been in other cases, I shall pretty soon be able to show you a very good example of what coagulated albumen is in the nervous system and blood corpuscles. You will find this white of an egg gradually so hardened that you can take it out without a fork. I notice already that a mysterious change in it has begun. A strange thickening shoots through the fluid mass. This is your

moderate drunkard that I am stirring up now. There is your tippler, a piece of him, [holding up a portion of the coagulated mass upon the glass pestle]. The coagulation of the substance of the brain and of the nervous system goes on. I am stirring up a hard drinker now. The infinitely subtle laws of chemistry take their course. Here is a man [holding up a part of the coagulated mass] whose brain is so leathery that he is a beast, and kicks his wife to death. I am stirring up in this goblet now the brain of a hardened sot. On this prongless glass rod, I hold up the large part of the white of an egg which you saw poured into this glass as a fluid. Here is your man [holding up a larger mass] who has benumbed his conscience and his reason both, and has begun to be dangerous to society from the effects of a diseased brain. Wherever alcohol touches this albuminous substance, it hardens it, and it does so by absorbing and fixing the water it contains. I dip out of the goblet now your man in delirium tremens. Here is what was once a fluid, rolling easily to right and left, and now you have the leathery brain and the hard heart.

Distortions of blood discs taken from the veins of drunkards have been shown to you here by the stereopticon and the best miscroscope in the United States. All the amazing alterations you saw in the shape, color, and contents of the blood discs are produced by the affinity of alcohol for the water in the albuminous portion of the globules.

I am speaking here in the presence of expert chemists. You say I have no business to know

anything about these topics. Well, the new professor in Andover on the relations between religion and science has no business to know them. The new professor at Edinburgh University and in Princeton has no business to know them. The lectureship at the Union Theological Seminary in New York has no right to teach on these themes. There is getting to be a tolerably large company of us who are intending to look into these matters at the point of the miscroscope and the scalpel. In a wiser generation than ours the haughty men who will not speak themselves of the relations of religion and science, and will not allow others to speak —veritable dogs in the manger—will be turned as dogs out of the manger. I speak very strongly, for I have an indignation that can not be expressed when it is said that men who join hands with physicians, and are surrounded by experts to teach them the facts, have no right to make inferences. Men educated and put into professorships to discuss as a specialty the relation of religion and science have no right to discuss these themes! We have a right as lawyers to discuss such topics before juries, when we bring experts in to help us. I bring experts before you as a jury. I assert the right of Andover, and Princeton, and New Haven, and Edinburgh, and even of this humble platform to tell you what God does in the brain, and to exhibit to you the freshest discoveries there of both His mercy and wrath.

My support of temperance reform I would base upon the following propositions:

1. Scars in the flesh do not wash out nor grow

out, but, in spite of the change of all the particles of the body, are accurately reproduced without alteration by the flux of its particles.

Let us begin with an incontrovertible proposition. Everybody knows that the scars of childhood are retained through life, and that we are buried with them. But we carry into the grave no particle of the flesh that we had in youth. All the particles of the body are in flux and are changed every few years. There is, however, something in us that persists. I am I; and therefore I am praiseworthy or blameworthy for things I did a score of years since, although there is not a particle of my body here now that was here then. The sense of the identity persisting in all the flux of the particles of the system, proves there is something else in man besides matter. This is a very unsubstantial consideration, you say; but the acute and profound German finds in this one fact of the persistence of the sense of identity in spite of the flux of the particles of the body, the proof of the separateness of matter and mind.

Something reproduces these scars as the system throws off and changes its particles. That something must have been affected by the scarring. There is a strange connection between scars and the immaterial portion of us. It is a mysterious fact, right before us daily, and absolutely incontrovertible, that something in that part of us which does not change reproduces these scars. Newton, when the apple fell on his head—according to the fable, for I suppose that story is not history—found in it the law of the universe; and so in the simple fact

that scars will not wash out or grow out, although the particles of the flesh are all changed, we find two colossal propositions; the one is that there is somewhat in us that does not change, and is not matter; the other is, that this somewhat is connected mysteriously with the inerasability of scars, which, therefore, may be said to exist in some sense in the spiritual as well as in the material substance of which we are made.

2. It is as true of scars on the brain and nervous system as of those on any less important parts of the body, that they will not wash out, nor grow out.

3. Scars on the brain or nervous system may be made by physical or mental habits, and are the basis of the self-propagative power of habits.

4. When the scars or grooves in which a habit runs are made deep, the habit becomes automatic or self-acting and perhaps involuntary.

5. The grooves worn or scars made by good and bad habits may be inherited.

Physical identity of parent and offspring, spiritual identity of parent and offspring — these mysteries we have discussed here; and this two-fold identity is concerned in the transmission of the thirst for drink. When the drunkard who has had an inflamed stomach, is the father of a child that brings into the world with it an inflamed stomach, you have a case of the transmission of alcoholic scars.

6. While self-control lasts, a bad habit is a vice; when self-control is lost, a bad habit is a disease.

7. When a bad habit becomes a disease, the

treatment of it belongs to physicians; while it is a vice, the treatment of it belongs to the Church.

8. In probably nine cases out of ten, among the physical difficulties produced by the use of alcohol, and not inherited, the trouble is a vice and not a disease.

9. Alcohol, by its affinity for water, hardens all the albuminous or glue-like substances in the body.

10. It thus paralyzes the small nerves, produces arterial relaxation, and deranges the circulation of the blood.

11. It produces thus an increased quickness in the beating of the heart, and ruddiness of countenance which are not signs of health, but of disease.

Pardon me if I dwell a moment on this proposition, which was not made clear by science until a a few years ago. You say that moderate drinking quickens the pulse and adds ruddiness to the countenance, and that, therefore, you have some reason to believe that it is a source of health. I can hardly pardon myself for not having here a set of the chemical substances that partially paralyze the small nerves. I have a list of them before me, and it includes ether and the whole series of nitrites, and especially the nitrite of amyl. If I had the latter substance here, I might, by lifting it to the nostrils, produce this flushing of the face that you call a sign of health in moderate drinking. There are five or six chemical agents that produce paralysis of the vessels of the minute circulation, and among them is alcohol. A blush is produced by a slight paralysis of the small nerves in the interlacing ends of the arteries and veins. If I had ether here, and could

turn it on the back of my hand and evaporate it, I could partially freeze the skin, and then, removing the ether, you would see a blush come to the back of the hand. That is because the little nerves that help constrict and keep up the proper tone of the circulating organs, are temporarily paralyzed. A permanent blush in the face of a drunkard indicates a permanent injury to the blood vessels by alcohol. The varicose vein is often produced in this way by the paralysis of some of the nerves that are connected with the fine parts of the circulatory organs. When the face blushes permanently in the drunkard the injury revealed is not a local one, but is inflicted on every organ throughout the whole system.

After moderate drinking you feel the heart beating faster, to be sure, but it beats more rapidly because of the paralysis of the delicate nerves connected with the arteries, and because of the consequent arterial relaxation. The blood meets with less resistance in passing through the relaxed circulatory organs, and so, with no additional force in the heart, that organ beats more rapidly. It beats faster simply because it has less force to overcome. The quickened pulse is a proof of disease and not of health. (*See* Dr. Richardson, Cantor Lectures on Alcohol.)

12. Alcohol injures the blood by changing the color and chemical composition of its corpuscles.

In the stereopticon illustrations, you saw that the red discs of blood are distorted in shape by the action of alcohol. You saw that the arrangement of the coloring matter in the red discs is changed.

You saw that various adulterations appeared to come into the blood, or at least into visibility there, under the influence of alcohol. Lastly, you saw, most terrible of all, an absolutely new growth occurring there—a sprout protruding itself from the side of the red corpuscle in the vital stream. Last year I showed you what some of the diseases of leprosy did for the blood, and you see how closely alcoholism in the blood resembles in physical effects the most terrific diseases known to man.

Here are the diseases that are the great red seal of God Almighty's wrath against sensuality; and when we apply the microscope to them, we find in the blood discs these sprouts, that greatly resemble each other in the inebriate and in the leper. Dr. Harriman has explained, with the authority of an expert, these ghastly growths. These sprouts shoot out of the red discs, and he tells you that, after having been called before jury after jury as an expert, sometimes in cases where life was at stake, he has studied alcoholized blood, and that a certain kind of spore, a peculiar kind of sprout, which you have seen here, he never saw except in the veins of a confirmed drunkard. I think the day is coming when, by microscopic examination of the blood discs, we can tell what disease a man has inherited or acquired—if it be one of that kind which takes hold of the circulatory fluid.

This alcohol, with its affinity for water, changes the composition of every substance in the body into which water enters, and there are seven hundred and ninety parts of water in every thousand of blood. The reason alcohol changed this white of

an egg into hardness, that if it had been put in whole I could have rolled it across the platform, was that the fierce spirit took the water out of the albumen. If I had a plate of glass here, and could put upon it a solution of the white of an egg, and could sprinkle upon it a little finely-powdered caustic soda, I could very soon pick up the sheet of gelatinous substance and should find it leathery, elastic, tough. Just so this marvelous white matter folded in sheets in the brain is drenched with a substance that takes out the water, and the effect on the brain is to destroy its capacity to perform some of its most delicate actions. The results of that physical incapacity are illustrated in all the proverbial effects of intemperance.

13. The deteriorations produced in the blood by alcohol are peculiarly injurious to the brain on account of the great quantity of blood sent to that organ.

The brain weighs only about one twenty-eighth of the rest of the body, and yet into it, according to most authorities, is sent from a tenth to a sixth of all the blood. If you adopt fiat money, where will the most harm be done? What part of this land shows first of all the effect of a debased condition of the currency? Wall Street? Why? Because there the circulation is most vigorous. The blood of the land, to speak of money under that title, is thrown into wall Street as the blood of the body is thrown into the head, and so in Wall Street, we have our men on the watch to tell us whether the currency is in a healthy or unhealthy state. The slightest alteration is felt there, because

the currency there is accumulated, and so in the brain the slightest injury of the blood is felt first, because here is accumulated the currency of the system.

14. Most poisons and medicines act in the human system according to a law of local affinity, by which their chief force is expended on particular organs, and sometimes on particular spots of particular organs.

15. All science is agreed that the local affinity of alcohol, like that of opium, prussic acid, hashish, belladonna, etc., is for the brain.

16. The brain is the organ of the mind, and the temple and instrument of conduct and character.

17. What disorganizes brain disorganizes mind and character, and whatever disorganizes mind and character disorganizes society.

18. The local affinity of alcohol for the brain, therefore, exempts it, in its relations to Government, from the list of articles that have no such affinity, and gives to Government the right, in self-defence, to interfere by the prohibitory regulation of its sale as a beverage.

19. It is not sufficient to prove that alcohol is not a poison to overthrow the scientific basis of its prohibitory laws.

20 Intemperance and cerebral injury are so related that even moderate indulgence is inseparably connected with intellectual and moral disintonement.

21. In this circumstance, and in the inerasibility of the scars produced by the local affinity of alco

hol for the brain, the principle of total abstinence finds its justification by science.

Nothing in science is less questioned than the law of local affinities, by which different substances taken into the system exert their chief effect at particular localities. Lead, for example, fastens first upon the muscles of the wrist, producing what is known among painters and white-lead manufacturers as a wrist-drop. Manganese seizes upon the liver, iodine upon the lymphatic glands, chromate of potash upon the lining membrane of the eyelids, mercury upon the salivary glands and mouth. Oil of tobacco paralyzes the heart. Arsenic inflames the mucous membranes of the alimentary passages. Strychnine takes effect upon the spinal cord. Now, as all chemists admit, the local affinity of alcohol is for the brain. Dr. Lewis describes a case in which the alcohol could not be detected in the fluid of the brain cavities, nor, indeed, in any part of the body, but was obtained by distillation from the substance of the brain itself. Dr. Percy distilled alcohol in large quantities from the substance of the brains of animals killed by it, when only small quantities could be found in the blood or other parts of the systems of the same animals. Dr. Kirk mentions a case in which the brain liquid of a man who died in intoxication smelt very strongly of whisky, and when some of it was taken in a spoon, and a candle put beneath it, the flame burned with a lambent blue flame. But brain is the organ of the mind. Dr. Bucknell (Habitual Drinking) quotes Forbes Winslow as having testified before a Committee of Parliament that the liquid dipped from the brain of

an habitual inebriate can thus be burned. Whatever is a disorganizer of the brain is a disorganizer of mind, and whatever is a disorganizer of mind is a disorganizer of society. It is from this point of view that the right of Government to prevent the manufacture of madmen and paupers can be best seen. I care not what men make of the famous recent experiments of Lallemand, Perrin, and Duroy, of France, by which half of the medical profession, including Dr. Carpenter, has been carried over to the support of the propositions that alcohol is eliminated from the system in totality and in nature; is never transformed and never destroyed in the organism; is not food; and is essentially a poison. I care not, on the other hand, what men make of the proposition Mr. Lewes defends, that alcohol may be a negative food. The local affinity of alcohol for the brain! This is a great fact. It is a fact uncontroverted. It is a fact sufficient. It is a fact to be heeded even in legislation.

Among the well known authorities on the influence of alcohol on the human brain, Dr. W. B. Carpenter and Dr. B. W. Richardson, of England, are now in entire accord with Prof. Youmans and Dr. W. E. Greenfield, of the United States, in recommending total abstinence. Dr. Richardson's Cantor lectures have been followed by a volume on "Total Abstinence," and he gives to Dr. Carpenter's views on this subject his full assent and final adhesion, having learned at last, he says, "how solemnly right they are." In 1869 Dr. Richardson began to abstain from wine, by limiting his use of

it to festal occasions, but still more recently he has abandoned its use altogether.

The graduates of Amherst College met at the Parker House, in Boston, some years ago, and, although a wine glass was placed at the side of each plate, not one of them was filled. Niagara itself, a recent traveler in the United States says, is not as worthy of description to Englishmen as the pure array of goblets with ice-water at the usual dinners at hotels. Mrs. Hayes has expelled intoxicating beverages from the Presidential mansion.

The latest investigators of the influence of alcohol on the brain are Schulinus, Anstie, Dupré, Labottin, and Binz. The latter in a series of remarkable articles published in the *Practitioner*, in 1876, maintains that a portion of every dose of alcohol is burned in the system, and yet he considers the use of alcohol in health as entirely superfluous. The experimenters agree with the majority of physicians that, in the army and navy, and for use among healthy persons, alcohol, even as a ration strictly limited to a moderate quantity, is physiologically useless and generally harmful.

Upon different portions of the brain the action of alcohol can be distinctly traced by medical science and even by common observation. The brain, it will be remembered, is divided into three parts. The upper, which comprises the larger part, and which is supposed to be the seat of the intellectual and moral faculties, is called the *cerebrum*. Below that, in the back part of the organ, is another mass, called the *cerebellum*, parts of which are be-

lieved to control the contractions of the muscles in portions of the body. Still lower is the *medulla oblongata*, which presides over the nerves of respiration. Now the action of alcohol can be distinctly marked upon the different parts of the brain. The moral and intellectual faculties are first jarred out of order in the progress of intoxication. The tippler laughs and sings, is talkative and jocose, coarse or eloquent to almost any degree according to his temperament. The cerebrum is first affected. His judgment becomes weak; he is incapable of making a good bargain, or of defending his own rights intelligently, but he does not yet stagger; he is as yet only a moderate drinker. The effect of moderate drinking, however, is to weaken the judgment and to destroy the best powers of the will and intellect. But he takes another glass, and the cerebellum which governs several of the motions of the body is affected, and now he begins to stagger. He loses all control of his muscles, and plunges headlong against post and pavement. One more glass and the *medulla oblongata* is poisoned. This organ controls the nerves which order the movements of the lungs, and now occurs that hard breathing and snoring which is seen in dead drunkenness. This stoppage is caused by impure blood so poisoning the *medulla oblongata* that it can no longer perform its duties. The cerebrum and cerebellum now seem to have their action entirely suspended, and sometimes the respiratory movements stop forever, and the man dies by asphyxia in the same manner as by drowning, strangling, or narcotic poisoning by any other substance. (*See*

Prof. Ferrier. The Localization of Cerebral Disease. London, 1878.)

Who shall say where end the consequences of alcoholic injury of the blood and of the substance of the brain? Here within the cranium, in this narrow chamber, so small that a man's hand may span it, and upon this sheet of cerebral matter, which, if dilated out, would not cover a surface of over six hundred square inches, is the point of union between spirit and matter. Inversions of right judgment and every distortion of moral sense legitimately follow from the intoxicating cup. It is here that we should speak decidedly of the evil effects of moderate drinking. Men may theorize as they please, but practically there is in average experience no such thing as a moderate dose of alcohol. People drink it to produce an effect. They take enough to "fire up," as they say, and unless that effect is produced they are not satisfied. They will have enough to raise their spirits, or dissipate gloom. And this is enough to impair judgment, and in the course of years perhaps to ruin fortune, body, and soul. The compass is out of line in life's dangerous sea, and a few storms may bring the ship upon breakers.

It is to be remembered that, by the law of local affinity, the dose of alcohol is not diffused throughout the system, but is concentrated in its chief effects upon a single organ. When a man drinks moderately, though the effects might be minute if dispersed through the whole body, yet they may be powerful when most of them are gathered upon the brain. They may be dangerous when turned

upon the intellect, and even fatal when concentrated upon the primal guiding powers of mind—reason, and moral sense. It is not to the whole body that a moderate glass goes; it is chiefly to its most important part—the brain; and not to the whole brain, but to its most important part—the seat of the higher mental and moral powers; and not to these powers at large, but to their helmsman and captain—Reason and Conscience.

"Ship ahoy! All aboard! Let your one shot come," shouts the sailor to the pirate craft. Now, one shot will not shiver a brig's timbers much, but suppose that this one ball were to strike the captain through the heart, and the helmsman through the skull, and that there are none to fill their posts, it would be a terrible shot indeed. Moderate drinking is a charmed ball from a pirate craft. It does not lodge in the beams' ends. It cuts no masts. It shivers no plank between wind and water. It strikes no sailor or under-officer, but with magic course it seeks the heart of the captain and the arms of the helmsman, and it always hits. Their leaders dead, and none to take their place, the crew are powerless against the enemy. Thunders another broadside from pirate alcohol, and what is the effect? Every ball is charmed; not one of the crew is killed, but every one becomes mad and raises mutiny. Commanders dead, they are free. Thunders another broadside from the pirate, and the charmed balls complete their work. The mutinous crew rage with insanity. Captain Conscience and Steersman Reason are picked up, and, lest their corpses should offend the crazy sailors, pitched

overboard. Then ranges Jack Lust from one end of the ship to the other. That brave tar, Midshipman Courage, who, in his right mind, was the bravest defender of the ship, now wheels the cannon against his own friends and rakes the deck with red-hot grape until every mast totters with shot-holes. The careful stewards, seamen Friendship and Parental Love, whose exertions have always heretofore provided the crew seasonably with food and drink, now refuse to cook, furnish no meals, unhead the water-casks, waste the provisions, and break the ship's crockery. The vessel has wheeled into the trough of the sea; a black shadow approaches swiftly over the waters, and the compass and helm are deserted. That speculating mate, Love of Money, who, if sober, would see the danger, and order every rag down from jib to mainsail, and make the ship scud under bare poles before the black squall, now, on the contrary, orders up every sail and spreads every thread of canvas. The rising storm whistles in the rigging, but he does not hear it. That black shadow on the water is swiftly nearing. He does not see it. In the trough of the sea the ship rocks like a cockle shell. He does not feel it. Yonder, before the dense rush of the coming blow of air rises a huge wave, foaming, and gnawing, and groaning on high. He does not hear it. With a shock like the opening of an earthquake it strikes the broadside; with a roar it washes over the deck; three snaps like cannon, and the heavily-rigged masts are gone; a lurch and sucking in of waves, and the hold is full of water, and the sinking ship just survives the first heavy

sea. Then comes out Mirthfulness, and sits astride the broken bowsprit, and ogles a dancing tune. The crew dance! It were possible, even yet, to so man the pumps and right the helm as to ride over the swells and drive into port, but all action for the right government of the ship is ended. Trumpeter Language mounts the shattered beams of the forecastle, and makes an oration; it is not necessary to work, he tells the crew, but to hear him sputter yarns.

It is fearful now to look upon the raging of the black sea. Every moment the storm increases in fury. As a giant would toss about a straw, so the waves handle the wrecked timbers. Night gathers her black mists into the rifted clouds, and the strong moaning sound of the storm is heard on the dark ocean. By that glare of lightning I saw a sail and a life-boat! Men from another ship are risking their lives to save the insane crew whose masts are gone. They come nearer, but the boat bounds and quivers, and is nearly swamped upon the top of a wave. Jack Courage and Independence see the boat coming. "Ship ahoy," shout the deliverers. "Life-boat from the ship Temperance! Quit your wreck and be saved." No reply. Independence grinds his teeth and growls to Jack Courage that the offer of help is an insult. "I will tell you how to answer," says Jack, stern and bloody. There is one cannon left with a dry charge. They wheel that upon the approaching boat, and Independence holds the linstock over the fuse-hole. "Life-boat for sailors on the wreck," shouts Philanthropy from the approaching boat. "What an-

swer, ship Immortal?" Then shoots from the ringing gun a tongue of flame, and ten pounds of iron are on their way. The Temperance boat rocks lower from the wave-top, and the deadly reply just grazes the heads of the astounded philanthropists and buries itself heavily in their own ship beyond. It was an accident, they think, and keep on board the ship and stand upon its deck. Then flash from their scabbards a dozen swords; then click the locks of a dozen muskets; then double the palms of a dozen fists; then shake the clubs of a dozen maniac arms, and the unsuspecting deliverers are murdered on the deck they came to save. As the lightning glares I see them thrown into the sea, while thunders are the dirge of the dead and the damnation of the murderers.

The drunken ship is fast filling with water. Not a man at the pumps, not an arm at the helm. Having destroyed their friends, the crew fall upon each other. Close under their bow rave the breakers of a rocky shore, but they hear it not. At intervals they seem to realize their condition, and their power even yet to save themselves, but they make no effort. Gloom, and storm, and foam shut them up against hell with many thunders. In this terrible extremity Independence is heard to refuse help, and boasts of his strength. Friendship and Parental Love rail at thoughts of affection. Language trumpets his easy yarns and grows garrulous as the timbers crack one after another. Rage and Revenge are now the true names of Firmness and Courage. Silly Mirth yet giggles a dance, and I saw him astride the last timber as the ship went

down, tossing foam at the lightning. Then came a sigh of the storm, a groaning of waves, a booming of blackness, and a red, crooked thunderbolt shot wrathfully blue into the suck of the sea where the ship went down.

And I asked the names of those rocks, and was told: "God's Stern and Immutable Laws."

And I asked the name of that ship, and they said: "Immortal Soul."

And I asked why its crew brought it there, and they said: "Their captain, Conscience, and helmsman, Reason, were dead.

And I asked how they died, and they said: "By one single shot from the pirate Alcohol; by one charmed ball of Moderate Drinking!

On this topic, over which we sleep, we shall some day cease to dream.

THE BEER QUESTION.

The National Temperance Society has published the following books, tracts, and pamphlets upon the beer question, which should have a wide circulation. The following are adapted to Sunday-school libraries, as well as for family reading and general distribution.

Brewer's Fortune, The. By Mary Dwinell Chellis. 12mo, 425 pp..... ..... **$1.50**

This takes up and discusses the entire beer question; the writer having carefully studied the subject from every point of view, and it is worthy of the widest circulation. It is one of the best volumes ever written by this popular author, and shows that wealth can not compensate for evil-doing, and that the sins of the fathers are often visited upon the children.

Brewery at Taylorville, The. By Mary Dwinell Chellis. 12mo, 445 pp..... **1.50**

This book shows how much evil was wrought by the establishment of a brewery in a hitherto prosperous town, and how it brought ruin and disgrace upon those who indulged in what are called the lighter drinks. It is one of the strongest books in favor of total abstinence from everything that can intoxicate.

Firebrands; a Temperance Tale. By Mrs. J. McNair Wright. 12mo, 357 pp.. **1.25**

It is the story of an orphaned boy, adopted by a distant relative, and subsequently the inheritor of a small fortune from an uncle, which he is then induced to invest in brewing in a country village, with an unhappy sequel alike to himself and the community. The lesson against tampering with beer or strong drink, either the drinking, making, or vending of it, is of a most impressive character, and is admirably adapted to win and hold the reader's interest, and to create and strengthen good resolutions.

Beer as a Beverage. An address by G. W. Hughey. 12mo, 24 pp..... **10**

A very able reply to the assumptions by the brewers at their late congress at St. Louis, that beer is a harmless, wholesome, "temperance" beverage. It deals very effectively and conclusively with the sophistries and falsehoods of the brewers, and is a most valuable document for general circulation by the friends of temperance in all parts of the country.

History and Mystery of a Glass of Ale. By J. W. Kirton. 12mo, 24 pp ... **10**

Showing what ale is, and what it does, and why it should be let alone.

EIGHT-PAGE TRACTS, $6.00 per 1,000.

The Evils of Beer Legislation. By J. B. Dunn, D.D.
Malt Liquors, their Nature and Effects. By Wm. Hargreaves, M.D.

FOUR-PAGE TRACTS, $3.00 per 1,000.

Why I Did Not Become a Brewer. By J. B. Dunn, D.D.
That Glass of Ale. By Rev. E. H. Pratt
The Sabbath and the Beer Question. By Geo. Lansing Taylor, D.D.
Shall we Use Wines and Beer? By Mrs. Sarah K. Bolton.
A Glass of Ale. By T. S. Arthur.
Not Poverty, but Beer. By Mary Dwinell Chellis.

UNION HAND-BILLS, $1.00 per 1,000.

A Crusade Against Beer.
What is Malt Liquor?
What Brewers Think about Beer.
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